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**Notice of Allowability**

Application No.

10/821,944

Examiner

David Nhu

Applicant(s)

HAYASHIDA ET AL.

Art Unit

2818

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/9/05.
2. ☒ The allowed claim(s) is/are 1-32.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received. 60/114,376
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/473,708.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

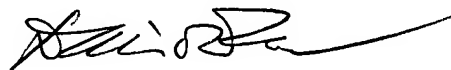
\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |



### REASONS FOR ALLOWANCE

1. Claims 1-32 are allowed.
2. The following is an examiner's statement of reasons for allowance: None of the references of record teaches or suggests as cited in claims 1, 3, 5, 7, 8, 10, 13, 16, 17, 18, 19, 21, 24, 26, 29: an n-type GaN-based compound is formed on a substrate using ammonia as a raw material, characterized in that the ammonia is charged into a charging container so that at least a portion of the ammonia is in a liquid phase and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol. ppm. (as cited in claims 1, 3, 5, 8, 10, 13, 21, 24, 26); an n-type GaN-based compound is formed on a substrate using ammonia as a raw material, characterized in that the ammonia is charged in a gaseous state into reaction chamber housing therein the substrate so that at least a portion of the ammonia is in a liquid phase and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol. ppm as determined by FT-IR (as cited in claims 7, 16, 29); a GaN-based compound semiconductor, characterized by comprising a charging container and ammonia charged into the charging container so that at least a portion of the ammonia is in a liquid phase and characterized in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol. ppm and in that the charging container is made of manganese steel or aluminum alloy; an inner surface subjected to plating treatment and polishing treatment; a cylindrical shape (as cited in claims 17, 18, 19).  
**Applicants' undersigned representatives filed an amendment on 9/9/05, and also filed at that time a terminal disclaimer statement with reference to USP: 6,719,842 B2.**
3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the

issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Conclusion**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Hayashida et al (6,719,842 B2): Ammonia for Use in Manufacturing of GAN-Type Compound Semiconductor and Method for Manufacturing GA-Type Compound Semiconductor.

5. Any inquiry concerning this communication on earlier communications from the examiner should be directed to David Nhu, (571)272-1792. The examiner can normally be reached on Monday-Friday from 7:30 AM to 5:00 PM.

The examiner's supervisor, David Nelms can be reached on (571)272-1787.

*The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.*

*Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956*

David Nhu



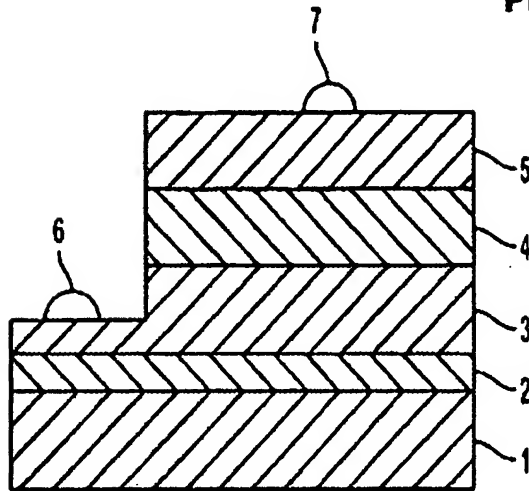
September 21, 2005



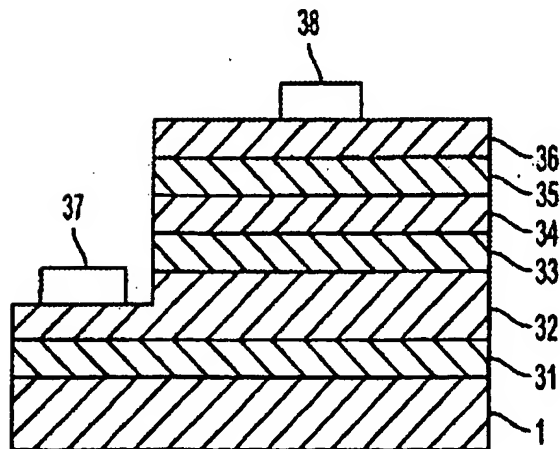
DAVID NHU  
PRIMARY

*Am  
approved  
9/21/05*

**Prior Art**



**FIG. 3**



**FIG. 4**